GLOBAL CHALLENGES OF SCIENCE AND WAYS TO OVERCOME THEM

Proceedings of the III International Scientific and Practical Conference

Sofia, Bulgaria
January 20-23, 2026

INFORMATION SYSTEMS AND TECHNOLOGIES		
18.	Глухов С.І., Сакович Л.М., Семеха С.М., Бабій О.С. ВПРОВАДЖЕННЯ ІНФОРМАЦІЙНИХ ТЕХНОЛОГІЙ ДЛЯ ПІДВИЩЕННЯ ЯКОСТІ ДІАГНОСТИЧНОГО ТА МЕТРОЛОГІЧНОГО ЗАБЕЗПЕЧЕННЯ РАДІОЕЛЕКТРОННИХ ЗАСОБІВ	100
LAW		
19.	Бугайчук К.Л. КОНЦЕПТУАЛЬНІ НАПРЯМИ КАДРОВОЇ ПОЛІТИКИ ОРГАНІВ ПРАВОПОРЯДКУ В СУЧАСНИХ УМОВАХ	104
20.	Ступицький М.А. ДОКАЗУВАННЯ У КРИМІНАЛЬНОМУ ПРОЦЕСІ: ПОРІВНЯЛЬНИЙ АНАЛІЗ ТЕОРЕТИЧНИХ КОНСТРУКЦІЙ	107
MANAGEMENT		
21.	Otargaliyev N.T. CURRENT STATE OF THE HEALTHCARE FINANCING SYSTEM IN KAZAKHSTAN AND EXISTING PROBLEMS IN THIS SYSTEM	111
MEDICINE		
22.	Kokorkin O., Pakholchuk O. EXPERIENCE IN THE TREATMENT OF CONGENITAL HYDRONEPHROTIC TRANSFORMATION OF THE KIDNEYS IN CHILDREN	117
23.	Serheta I. PROCESSES OF FORMATION OF PSYCHOPHYSIOLOGICAL FUNCTIONS OF THEPUPILS AND STUDENTS IN THE REALITIES OF MODERN TIMES	120
24.	Yurtsenyuk O., Rotar E. EATING DISORDERS IN MEDICAL STUDENTS	122
25.	Іванова Л.А., Грущак А.Р. ОПТИМІЗАЦІЯ ПАТОГЕНЕТИЧНОГО ЛІКУВАННЯ ГОСТРОГО ГАСТРОЕНТЕРИТУ У ДІТЕЙ РАННЬОГО ВІКУ	125

EXPERIENCE IN THE TREATMENT OF CONGENITAL HYDRONEPHROTIC TRANSFORMATION OF THE KIDNEYS IN CHILDREN

Kokorkin Oleksii
Candidate of Medical Sciences, Associate Professor, Associate Professor of the Department of Pediatric Surgery Zaporizhzhia State Medical and Pharmaceutical University

Pakholchuk Oleksii
Candidate of Medical Sciences, Assistant Professor, Department of Pediatric Surgery, Zaporizhia State Medical and Pharmaceutical University

Diagnosis and treatment of congenital pathology of the urinary tract (UT) in children of different ages remains one of the current problems in pediatric urological practice to this day. Congenital obstruction of the urinary system, which leads to the development of severe forms of pyelonephritis, irreversible functional and destructive changes in the upper and lower urinary tract and leads to disorders of the urinary system, which sometimes manifests itself in deep disability and mortality [1,2]. The frequency of diseases of the urinary tract among the pediatric population ranges from 0.5-5.5%, and in newborns it is somewhat higher, up to 11%, and up to 34% in patients who have undergone intensive care. In this regard, prenatal ultrasound diagnostics is a rather informative method in the diagnosis of congenital defects of the urinary tract, which has a sensitivity of 78 to 91% in relation to congenital pathology of the urinary tract [3,4]. The existing practice of correcting congenital hydronephrotic transformation of the kidneys by surgical intervention is optimal in cases of III-IV degree of the disease, and the treatment of I-II degree of this defect is carried out conservatively. Unfortunately, the percentage of negative results after surgical treatment of obstruction of the pyeloureteral segment remains quite high [2,4,5]. Therefore, the development of criteria for predicting and results of the pathological condition of the urinary tract remains an urgent issue for pediatric urologists.

The purpose of our study is to assess the long-term results of treatment of congenital hydronephrotic transformation of the kidneys in children, taking into account early diagnostic data.

Materials and methods. Under our observation in the pediatric surgery clinic of the Zaporizhzha state medical and pharmaceutical university from 2018 to 2025, there were 38 children with congenital hydronephrotic transformation of the kidneys. Among them, 25 boys and 13 girls. All patients were divided into 2 groups: group 1 consisted of 18 patients (11 boys and 7 girls), who were diagnosed with the defect prenatally (unilateral nature of the lesion in 62% of patients, bilateral nature in 38%). Of which, 8 children were diagnosed with congenital hydronephrotic transformation of the 2nd degree - they were treated conservatively, and 10% of babies were diagnosed the III-IV degree, these children received surgical treatment – pyeloplasty by Anderson-

Hynes. Group 2 included 20 children - unilateral nature - 68% of children, and in 32% - bilateral nature. The congenital defect was diagnosed in these patients as a spontaneous finding during ultrasound or during hospitalization to the clinic with symptoms of urinary tract infection. 5 children in this group had a congenital defect of the I-II degree - were treated conservatively, while 15 patients with a defect of the III-IV degrees were treated surgically. The average age of the examined was 4.5±0.5 months. And the term of follow-up observation was 4.5-5 years.

Inclusion in the study was carried out after obtaining informed consent from the parents.

The study methods included general clinical and biochemical laboratory, ultrasound, radiological and statistical methods.

Results and discussion. During the follow-up assessment of both groups of children, the following features were revealed: children of the first group, who received conservative treatment of the defect, had exacerbation of urinary tract infection 2 times less often than representatives of the second group, who received similar therapy. Patients of the first group who received surgical correction of the defect were 1.3 times less likely to seek specialized help for inflammatory processes of the urinary system. In children of both groups, no recurrence of the disease after surgical correction was detected. When conducting an ultrasound examination at the age of 3-5 years, a significant decrease in the size of the calyx-pelvis system and restoration of the renal parenchyma to the age-standard indicators in children of group 1 were obtained. The obtained results are explained by the early diagnosis of the defect.

Conclusions. 1. When assessing the long-term prognosis of congenital hydronephrotic transformation, a significant decrease in the number of inflammatory complications of the urinary system in children with prenatally diagnosed pathology was obtained. 2. Positive results of treatment in children with early detection of obstruction of the pyeloureteral segment were confirmed by ultrasound. 3. The effectiveness of early diagnosis of congenital hydronephrotic transformation was proven.

References:

1. Schürch B, Manegold-Brauer G, Schönberger H, Büchel J, Lapaire O, Butenschön A, Huhn EA, Huang D, Evers KS, Goischke A, Frech-Dörfler M, Rudin C. Diagnostic accuracy of an interdisciplinary tertiary center evaluation in children referred for suspected congenital anomalies of the kidney and urinary tract on fetal ultrasound - a retrospective outcome analysis. Pediatr Nephrol. 2021 Dec;36(12):3885-3897. doi: 10.1007/s00467-021-05139-z. Epub 2021 Jun 14. PMID: 34128097; PMCID: PMC8599352.

2. Mo Z, Zhang W, Xie X, Sun N, Tian J, Li M, Song H, Jin F. Optimizing postnatal management based on prenatal UTD grading: a 5-year follow-up study of fetal hydronephrosis in a large Chinese cohort. BMC Pediatr. 2025 Nov 21;25(1):943. doi: 10.1186/s12887-025-06343-8. PMID: 41272530; PMCID: PMC12639893.

3. Gu SL, Yang XQ, Zhai YH, Xu WL, Guo WX, Shen T. Clinical characteristics of patients with prenatal hydronephrosis in early postnatal period: a single center

retrospective study. BMC Pediatr. 2023 May 12;23(1):235. doi: 10.1186/s12887-023-04063-5. PMID: 37173710; PMCID: PMC10176811.

4. Kopač M. Pediatric Lower Urinary Tract Dysfunction: A Comprehensive Exploration of Clinical Implications and Diagnostic Strategies. Biomedicines. 2024 Apr 24;12(5):945. doi: 10.3390/biomedicines12050945. PMID: 38790908; PMCID: PMC11118197.

5. Zhu H, Wang J, Deng Y, Huang L, Zhu X, Dong J, Sha J, Gu N, Ge Z, Ma G, Guo Y, Zhang A. Use of double-J ureteric stents post-laparoscopic pyeloplasty to treat ureteropelvic junction obstruction in hydronephrosis for pediatric patients: a single-center experience. J Int Med Res. 2020 Apr;48(4):300060520918781. doi: 10.1177/0300060520918781. PMID: 32345075; PMCID: PMC7218463.